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ABSTRACT

This study identifies elements in the attachment behaviors of 7-month infants which predict the quality of their attachment to their mothers at 13 months. At 7 months 147 infants were observed (and videotaped) during a free play period with their mothers present, during a separation from their mothers and then during a reunion period. At 13 months 47 of the infants were observed under conditions which elicited attachment behaviors by increasing stress through alternating separation, stranger present and mother present conditions. Observers judged infants as either unattached, securely attached, or insecurely attached. It was hypothesized that infant behaviors during separation and reunion periods at 7 months would most reflect the quality of the infant's later attachment behavior, and that patterns of early infant behavior would predict later attachment classification better than would discrete variables. Infant patterns at 7 months were identified through factor analysis of separation and reunion behaviors. A multiple regression analysis, with 7 month factor scores as predictor variables and 13 month attachment classifications as the criterion variable, was performed. Results supported the hypotheses. Securely attached 13-month-old infants had tended to look at, play with and especially touch their mothers during reunion at 7 months. (Author/RH)

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Infant Attachment Patterns at Seven Months as Predictors of Attachment Classification at Thirteen Months

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Infant Attachment Patterns at Seven Months as Predictors of Attachment Classification at Thirteen Months

Recent research focusing on infant attachment has suggested the frailty of the concept by noting the lack of intra- and inter- individual consistency in attachment behaviors (Coates, Anderson and Hartup, 1972 a, b; Cohen, 1974; Masters and Wellman, 1974; Rosenthal, 1973; Stayton, Ainsworth, & Main, 1973). There has been much debate concerning the nature of infant attachments (Cohen, 1974; Lamb, 1977a; Rosenthal, 1973; Weinraub, Brooks & Lewis, 1977). Rosenthal (1973) speculated that the lack of reliability and validity reported in several studies of attachment behaviors (Coates, et al., 1972 a, b) is the result of a misdefinition of the concept. Some researchers, she claimed, have defined attachment as a thing to be achieved whereas she contends that attachment is "a characteristic of some patterns of interaction between mother and infant." Cohen (1974) and Lamb (1974) both defend the concept of attachment as it is traditionally defined, that is, as a special relationship or bond between the infant and the primary caregiver which is specific in focus and enduring in nature. Lamb (1974) suggested that a definition such as the one proposed by Rosenthal (1973) indicates a basic misunderstanding of the concept of attachment as outlined by Bowlby (1969) and Ainsworth (1972). He defends the traditional concept of attachment, presses for the centrality of the concept in early infant development, and emphasizes Ainsworth's (1972) distinction between attachment as a theoretical construct and attachment behaviors. This distinction between attachment and attachment behaviors has been offered

as an explanation for the low intercorrelations between attachment behaviors. Since attachment is a global concept whereas attachment behaviors are only approximate indicators of that global concept, it is possible for specific behaviors to be equally related to attachment but unrelated or even negatively correlated with each other as in the case, for example, of smiling and crying. Cohen (1974) has also attempted to clarify this problem of reliability and validity in the concept of attachment. She has noted that the selectivity of attachment behaviors in the infant directed toward the attachment figure, a crucial issue in the measurement of attachment, has not been examined in a methodologically sound manner. Infant behaviors directed toward mother should not be compared with those directed toward fear producing strangers but rather to an habituated stranger. This would allow a test of the "specialness" of the mother-directed infant behaviors in comparison to a nonfear provoking adult stranger. Tracy, Lamb, and Ainsworth (1976) have recently reported a study of infant approach behavior directed toward mother and an habituated stranger. Their findings suggest that approach behavior is differential but only within certain situational contexts. Infants approached the habituated stranger in a free choice situation only slightly less than mother, and in object-oriented approaches, were more likely to approach the habituated stranger. However, approaches accompanied by crying or requests for pick up were much more likely to be directed toward the mother. Cohen (1974) has suggested that such studies comparing mother and habituated strangers within and across situations are necessary

pre-requisites for an operational definition of attachment which might increase both the reliability and validity of the construct.

Responding to these numerous problems Masters and Wellman (1974) have suggested an approach to the measurement of attachment behaviors which is based on commonalities of behavior patterns in particular situations or sequences. They propose that if research investigators examined "certain behavior patterns [which] may be highly probable and characteristic of children in some situations and not in others" such a measurement would increase both the reliability and validity of the concept of attachment. Waters (Note 2) has also suggested that infant attachment is not a dispositional trait as so frequently has been implied, but rather a behavioral system activated in particular situations and relationships. Both Masters and Wellman (1974) and Waters (Note 2) emphasize that the focus of attachment studies should be similarities and/or consistencies in patterns of attachment behaviors triggered by certain critical situations, for example, separation and reunion.

Waters (Note 1) adopted this approach in a recent study which targeted primarily reunion behaviors in 12 and 18 month old infants and was able to demonstrate a considerable degree of concurrence in the patterning of behavior from one period to another. At the same time, he found little evidence of temporal stability or reliability in the discrete behavior variables usually employed in studies of this type.

The present study represents an attempt to determine whether emergent attachment patterns in seven month old infants would prove to be predictive

of the quality of attachment to mother at 13 months. At seven months, infants were examined in a free play, a separation and then reunion period with their mothers. Infants were again observed at 13 months in the traditional Ainsworth Strange Situation (Ainsworth and Wittig, 1969). We hypothesized, on the basis of previous findings (Ainsworth et al., 1971; Waters, Note 1) that infant behaviors during separation and reunion would be most reflective of an emerging attachment relationship. We also hypothesized that emphasis on the early patterning of infant responses to these particular situations (separation and reunion) would permit a better prediction of later attachment classificaton than had yet been achieved with the intercorrelation of discrete attachment behaviors (Coates et al., 1972, a,b; Masters and Wellman, 1974; Waters, Note 1).

Method

Subjects. The initial sample consisted of 166 infants from white, middle class families living in Syracuse and the surrounding area. The infants ranged in age from 6.5 to 7.5 months. Names of potential subjects were obtained through birth announcements published in the local newspapers. Mothers were contacted by letter and subsequently by telephone. Of those contacted, approximately 75 percent agreed to participate in the study. Complete data were obtained for 147 infants. Of these, 77 were female; 70 were male. Only one infant failed to complete the observation sequence. Data for 15 infants were lost through equipment malfunction. One videotape containing recordings of three infants was inadvertantly erased.

Forty-seven infants were observed again at 13 months. Eighty mothers had been requested to return with their infants but various external constraints (a blizzard, the flu, etc.) prevented many of them from doing so. Only a few mothers said they did not want to return.

Observational setting. Both the initial seven month study and the 13 month study follow-ups were conducted in the Infant Research Laboratory at Syracuse University. Infants and their mothers were observed in a 3.66m x 5.03m playroom. A small observation room containing videotape equipment was located adjacent to the playroom. All observations were recorded on videotape through a one way glass.

Procedure. At seven months, the procedure consisted of a free play period followed by a brief separation and reunion sequence. Infants returning at 13 months were observed within the context of the Ainsworth Strange Situation (Ainsworth and Wittig, 1969). Details of both procedures are reported below.

Observation 1: infants at seven months. Upon arrival at the laboratory, each mother was escorted with her infant to the playroom, which contained a sofa, a table, some current magazines, and several toys. She was instructed to make herself comfortable during a brief warm-up period, and to leave the room at the sound of a knock. Instructions to mothers were minimized in an attempt to provide as naturalistic a situation as is possible in the laboratory.

Following the 15 minute preseparation period, mothers were signaled to leave the playroom, closing the door behind them. They were brought into

the observation room where they could view their infants during the separation period. At the end of the two minute separation episode, mothers were asked to return to the playroom for a period of three minutes. Separation and reunion episodes were videotaped.

Response measures. Both mother and infant behaviors were recorded. However, since infant behaviors are the focus of the present study, details of the coding procedure will be presented only for the infant behaviors. Infant variables for the separation episode included vocalizing, looking for mother, playing with mother, playing alone, exploring, neutral behaviors, crying and fussing. Infant reunion behaviors included vocalizing, looking at mother, smiling at mother, proximity seeking, touching mother, playing with mother, playing alone, exploring, neutral behaviors, crying and fussing. Behaviors were coded from the videotape recordings by trained observers. At 10 second intervals, the tape was halted and the occurrence of any of the relevant behaviors during the interval was noted on a coding form.

Reliability was established by having the three observers code simultaneously 10 tapes chosen at random, and calculating for each variable a percentage of agreement ratio for each observer in comparison to a fourth coder whose reliability had been previously established. Reliability scores thus obtained ranged from .86 for looking to

1.00 for crying. The mean reliability score for the three observers was .958.

Observation 2: infants at thirteen months. The infants who returned for the follow-up study were observed within the context of the Ainsworth Strange Situation which has been described in detail elsewhere (Ainsworth and Wittig, 1969). Briefly, the procedure involves a series of eight increasingly stressful episodes designed to elicit attachment behaviors in infants. The procedures followed in these episodes are summarized below.

Episode 1. Mother and baby are shown into the playroom. Observer leaves.

Episode 2. Mother and baby are alone for three minutes.

Episode 3. A stranger enters, sits silently for one minute, converses with the mother for one minute, and then attempts to play with the baby for one minute.

Episode 4. Mother leaves, and baby is alone with the stranger for three minutes.

Episode 5. Mother returns, the stranger exits, and mother and baby are together for three minutes.

Episode 6. Mother leaves baby alone for three minutes (or less if the infant becomes quite distressed).

Episode 7. The stranger enters and spends three minutes with baby.

Episode 8. Mother returns, the stranger leaves, and the reunion is observed. Duration unspecified.

Infants were observed in the same playroom as in Observation 1; however, this time the room contained two chairs (one for mother and one for the stranger), a table, and several toys. As Strange Situation assessment is focused exclusively on infant behaviors, mothers were instructed to respond naturally to their infant's overtures, but not to initiate any interaction. Strangers' approaches and mothers' departures were signaled by knocks from the observation room. Three female student assistants served as strangers throughout the study. Determination of who would act as a stranger for any given infant was made largely on the basis of availability, but overall each stranger served an approximately equivalent number of times.

Response measures. The Strange Situation yields three sets of response measures: a frequency count of several discrete attachment and exploratory behaviors; observer ratings on six scales designed to yield an assessment of the quality of the infant's attachment to the caretaker; and a classification of infants as belonging to one or another attachment category.

The first of these provides for each episode a tally of the following behaviors: locomotion, manipulation, visual exploration, and total exploration, looking (at mother and stranger), real cry, minimal cry, total cry, vocalization, smiling and neutral.

The second set of measures consists of the following seven point scales: proximity seeking, proximity avoidance, contact maintenance, contact resist-

ance, search during separation, and distance interaction. Observers rate the infants behavior for each of these scales at the end of each episode in reference to the mother and to the stranger where applicable.

The final measure, the attachment classification, is accomplished through a qualitative judgment on the part of the observer, taking into account the profile of behaviors exhibited by the infant throughout the entire sequence of events. Infants can be classifed as one of three major types (A, B, or C) and 11 subtypes. Although all infants were classifed according to both type and subtype, the small number of infants in each category precluded the inclusion of subtype as a factor in the analyses. Of the major types, the predominating feature distinguishing Type A "unattached" babies is mother avoidance; the primary criteria for classifying infants as Type B "securely attached" are proximity seeking at points of stress, and using the mother as a secure base from which to explore the surroundings; and Type C "insecurely attached" infants are characterized by a profile reflecting vacillation and indecision with respect to mother-directed and exploratory behavior.

Reliability for three observers was established by calculating a percentage of agreement ratio on all measures for each observer. Reliability on all measures was high, averaging .95. Reliability for the attachment classification with which this study was primarily concerned was 1.00.

Results

Infant Attachment at Seven and Thirteen Months

In order to identify patterns or commonalities of behaviors in separation and reunion situations at seven months, two principal factor analyses were performed on the original sample of 147 infants.[1] The first factor analysis included all the separation behaviors: vocalizing, looking at the door, smiling, following, playing, exploring, neutral, crying, and fussing. The second factor analysis included all the reunion behaviors: vocalizing, looking at mother, smiling at mother, proximity seeking, touching, playing with mother, playing alone, exploring, neutral, crying, and fussing.

The analysis of separation behaviors yields three factors. The factor structures and loadings are presented in Table 1. The first factor

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Insert Table 1 about here

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accounts for 58 percent of the variance. Variables loading positively on this factor included exploring, following, looking, fussing and crying. Playing loads highly and negatively. This factor seems to reflect separation distress. Factors two and three of this analysis account for 23 and 19 percent of the variance. Vocalizing, smiling and exploring load positively on the second factor, while crying and fussing load negatively. Factor three

yields positive loadings for looking, following and playing and a negative loading for neutral behaviors. These latter two factors, each with eigenvalues below one, appear to reflect activity in the absence of clear distress.

The factor analysis of reunion behaviors yields four factors. Factor one, explaining 44 percent of the variance, is predominantly accounted for by the variable touching which loads very highly and positively. Other variables loading in a high positive direction on this factor are looking at mother, and playing with mother. Playing alone loads quite highly but negatively. Primarily, this factor seems to represent reunion touching behavior. Factor two, accounting for 27 percent of the variance, loads highly on smiling and looking at mother and moderately on vocalizing and playing with mother. The variable touching loads moderately and negatively on this factor. Factor two seems to reflect distal reunion behaviors. Factors three and four explain 16 and 11 percent of the remaining variance. The variable playing alone dominates factor three while factor four yields a moderate negative loading for fussing and a moderate positive loading for exploring. Both factors three and four seem to reflect nonattentive reunion behaviors. Examination of Table 2 indicates that overall, touching, seems to be the most significant of the reunion behaviors.

Insert Table 2 about here

At 13 months, 47 of the original seven month sample of infants were observed in the Ainsworth Strange Situation (Ainsworth and Wittig, 1969). In this sample, according to the Ainsworth criteria, there were 32 "B" or securely attached babies and 15 "A" unattached or avoidant babies. There were two "C" or insecurely attached babies in the sample. However, since they were so few in number, these were eliminated from all further analyses.[2]

Seven Month Behavior Patterns as Predictors of Thirteen Month Classifications

A multiple regression analysis[3] was performed entering infant seven month factor scores for the three separation and four reunion factors as predictor variables and their attachment classification in the Ainsworth Strange Situation at 13 months as the criterion variable. The overall Multiple R ($R = .55$) is significant, $F(7, 37) = 2.33$, $p < .05$. The overall $R^2 = .30$ (standard error = .0445), and the Adjusted $R^2 = .174$. Examination of Table 3 indicates that reunion factors one, three, and four and separation factor three account for most of the variance in this analysis. Factor one, which is dominated by the variable reunion touching but also loads positively on the variables looking at and playing with mother, accounts for 11 percent of the variance and proves to be the most important predictor. Reunion factor three, dominated by the variable playing

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Insert Table 3 about here

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alone, accounts for almost nine percent of the variance; reunion factor four, which loads negatively on crying and positively on exploring, accounting for about three percent of the variance. Separation factor three loads positively on the variables looking, following and playing and loads negatively on neutral behaviors. This factor accounts for four percent of the variance. Separation factor one accounts for two percent of the variance and loads highly and negatively on playing alone. Each of the two remaining factors accounts for less than one percent of the variance. Thus, a somewhat simplified interpretation of these findings might be that infants who were to be classified at 13 months as Type "B" or securely attached, tended to look at, play with, and especially touch their mothers during reunion at seven months more than babies who were later to be classified as Type "A" unattached or avoidant.

Discussion

The results of this study support the hypotheses and indicate, contrary to some previously published findings, that it is possible to predict later infant attachment on the basis of earlier infant behaviors. The crucial issue in allowing for such predictability seems to be that proposed by Masters and Wellman (1974) and Waters (Note 1), that is, that commonalities and/or behavior patterns be the focus of attention. The present study accomplished this at seven months by analyzing discrete infant attachment behaviors through a factor analysis of behaviors in separation and reunion situations

with mother. A similar analysis of behaviors was accomplished at 13 months through the Ainsworth Strange Situation (Ainsworth and Wittig, 1969). This situation classifies infants on the basis of discrete attachment behaviors as well as a qualitative judgement by the observer of the infant's response to a series of increasingly stressful separations and reunions with mother. Although exact duplication of situations at seven and 13 months might be seen by some as ideal from a methodological perspective, this is not practical or even desirable because of the developmental changes occurring throughout the first year of life. Thus, the Ainsworth Strange Situation, for example, would be inappropriate for use with seven month olds. The fact that attachment classification at 13 months can nevertheless be predicted on the basis of five minutes of observation at seven months suggests that the concept of attachment is extremely robust and developmental in nature. Although previous studies have not reported impressive consistencies in discrete attachment behaviors, the present findings suggest that such consistencies do exist if situational context and/or behavioral commonalities are incorporated into the attachment measure. The seven and 13 month situations employed in this study did seem to produce the behavioral commonalities referred to by Masters and Wellman (1974), thus permitting prediction from one period to another. The discrete attachment behaviors measured, for example, vocalizing, smiling, looking at

and touching mother, are similar to those which are traditionally considered attachment behaviors. They are also the same behaviors which have traditionally yielded low reliability and validity. The present findings suggest that behavioral measures are at least partially representative of long term infant attachment but must be examined as behavioral patterns in response to particular situations. In fact, the inter- and intra-behavioral correlations of the discrete attachment behaviors in the data reported above (which have been reported elsewhere) are also consistently low. Analyses based on categorical summaries of behavioral responses, for example, factor scores or Ainsworth classifications, however, apparently do reflect a global construct of attachment.

These findings also suggest that the qualitative individual difference patterns that Ainsworth (e.g., Ainsworth, et al., 1972) has documented with 12 month old infants can be established as early as seven months. With the use of behavioral commonalities it may be possible to distinguish the qualitative differences reflected in "A," "B," and "C" types of attachment at a much earlier age.

Tracy, Lamb and Ainsworth (1976) and Lamb (1977b) have discussed a distinction between an affiliative system and an attachment system. The present results also lend indirect support to this notion. Although both systems may be represented by the same behaviors, they are activated by different situations. Extrapolating from our data and others', it seems likely that separation and especially reunion situations are the best situational activators of the attachment system toward mother

whereas free play situations, especially in the presence of the mother, are more likely to activate an affiliative system towards others. (Analysis of our preseparation data showed no relation to 13 month attachment classification.) Thus, it seems necessary that measures and definitions of attachment are careful to exclude situations that are more likely to activate an affiliative rather than an attachment system.

An equally interesting aspect of the present findings is the particular patterns of behavior that seem to be important. Similar to those of Waters (Note 1) and Ainsworth et al., (1971), these data suggest that reunion behaviors, especially reunion touching, are critical to the discrimination of what Ainsworth (1972) has termed quality of attachment. Although touch per se has not been particularly more reliable in previous studies of the inter- and intra- correlations of attachment behaviors, touching during a reunion episode seems to be particularly important as a predictor for later attachment classifications. This finding seems to reaffirm that attachment is most clearly evidenced by contact or proximity seeking in times of stress, most commonly reunion after a stressful separation. Considering the limited data available at this point, it is impossible to determine if reunion touching patterns of behavior can be considered a primary discriminant of attachment quality or if--to make matters even more complicated--it is necessary to determine the probable intricate antecedent set of behaviors to which a reunion touching pattern is consequent. Although the present study did not examine who initiated the reunion touching behavior, future studies might examine the dyadic sequencing of events. This may be helpful to our understanding of the

development of an attachment system; for example, "B" mothers may generally pick up their infants at reunion throughout the first year of life whereas "A" mothers may not. Ainsworth (1974) among others, has frequently emphasized the importance or reciprocal responsiveness in the development of infant and mother attachment.

In conclusion, the present results support Masters and Wellman's (1974) suggestions concerning appropriate measurement techniques of attachment in infants. Although the limitations of size and population in the present study suggest caution with regard to the generalizability of these findings, the authors do feel that the focus on commonalities and/or behavior patterns is a fruitful one. Replication and extension of studies of this type may improve the reliability and validity of the attachment construct while at the same time offering some important additions to our knowledge of the attachment phenomenon. Decreased emphasis on discrete attachment behaviors and increased emphasis on commonalities of responses within situational contexts may provide new information about the psychosocial development of the infant.

Reference Notes

1. Waters, E. The stability of individual differences in infant-mother attachment. University of British Columbia, unpublished manuscript, 1977.

2. Waters, E. Traits, relationships and behavioral systems: The attachment construct and the organization of behavior and development. University of British Columbia, unpublished manuscript, 1977.

References

Ainsworth, M. Attachment and dependency: A comparison; in J. L. Gewirtz (Ed.). Attachment and dependency, Winston, Washington, 1972, 97-138.

Ainsworth, M. Infant-mother attachment and social development: Socialization as a product of reciprocal responsiveness to signals. In M. Richards (Ed.). The integration of the child into the social world. Cambridge: Cambridge University Press, 1974.

Ainsworth, M., Bell, S. & Stayton, D. Individual differences in strange situation behavior of one-year olds. In H. Schaffer (Ed.). The origins of human social relations. London: Academic Press, 1971.

Ainsworth, M., Bell, S. & Stayton, D. J. Individual differences in the development of some attachment behaviors. Merill-Palmer Quarterly, 1972, 18, 123-143.

Ainsworth, M. D. & Wittig, B. Attachment and exploratory behavior of one-year olds in a strange situation. In B. Foss (Ed.). Determinants of infant behavior, Vol. 4. New York: Barnes and Noble, 1969.

Bowlby, J. Attachment and Loss (Vol. 1, Attachment). New York: Basic Books, 1969.

Coates, B., Anderson, E. P. & Hartop, W. W. Interrelations in the attachment behavior of human infants. Developmental Psychology, 1972a, 6, 218-230.

Coates, B., Anderson, E. P. & Hartup, W. W. The stability of attachment behaviors in human infants. Developmental Psychology, 1972b, 6, 231-237.

Cohen, L. The operational definition of human attachment. Psychological Bulletin, 1974, 81, 207-217.

Kerlinger, F. N. & Pedhazur, E. J. Multiple regression in behavioral research. Holt, Rinehart & Winston, Inc. New York, 1973.

Lamb, M. E. A defense of the concept of attachment. Human Development, 1974, 17:376-385.

Lamb, M. A re-examination of the infant social world. Human Development, 1977a, 20:65-85.

Lamb, M. Father-infant and mother-infant interaction in the first year of life. Child Development, 1977b, 48(1), 167-181.

Masters, J. & Wellman, H. Human infant attachment: A procedural critique. Psychological Bulletin, 1974, 81, 218-237.

Rosenthal, M. K. Attachment and mother-infant interaction: Some research impasse and a suggested change in orientation. Journal of Child Psychology & Psychiatry, 1973, 14, 201-207.

Stayton, D., Ainsworth, M. & Main, M. The development of separation behavior in the first year of life: Protest, following and greeting. Developmental Psychology, 1973, 9, 213-225.

Tracy, R. L., Lamb, M. E. & Ainsworth, M. D. Infant approach behavior as related to attachment. Child Development, 1976, 47:571-578.

Weinraub, M., Brooks, J. & Lewis, M. The social network: A reconsideration of the concept of attachment. Human Development, 1977, 20:32-47.

Footnotes

[1]It should be noted that factor analysis for reunion and separation behaviors were also performed separately for boys and girls. These analyses, although not entirely appropriate because of the consequent decrease in sample size, did suggest that the factor structures were similar, thus increasing our confidence in pooling the sexes in further analyses.

[2]A chi square analysis of Attachment Type x Sex was not significant.

[3]Since the criterion measure had only two levels, "A" and "B" attachment types, the multiple regression analysis is equivalent to a discriminant function analysis (Kerlinger and Pedhazur, 1973).

Table 1

Factor Analysis of Separation Behaviors in Infants at Seven Months

	Factor 1	Factor 2	Factor 3
Vocalizing	-.314	.425	-.198
Looking for Mother	.337	.183	.338
Smiling	-.005	.339	-.050
Following	.389	.060	.405
Playing	-.935	-.113	.322
Exploring	.462	.314	.063
Neutral	.202	-.006	-.318
Crying	.319	-.424	-.129
Fussing	.330	-.194	.133

Table 2

Factor Analysis of Reunion Behaviors in Infants at Seven Months

	Factor 1	Factor 2	Factor 3	Factor 4
Vocalizing	-.010	.319	-.080	.019
Looking at Mother	.564	.449	.058	-.147
Smiling	.276	.576	-.029	.029
Proximity Seeking	.109	.050	-.133	.224
Touching	.807	-.361	.321	.241
Playing with Mother	.470	.314	.039	.219
Playing Alone	-.656	.223	.606	.149
Exploring	-.013	-.208	-.089	.301
Neutral	-.123	-.130	-.384	.194
Crying	.285	-.380	.191	-.124
Fussing	.230	-.151	.027	-.378

Table 3

Summary Table of Multiple Regression Analysis

	Zero Order Correlation	Beta	Variance Explained
Reunion Factor 1	.336	.519	.113
Reunion Factor 3	.258	.378	.087
Reunion Factor 4	-.063	-.202	.034
Separation Factor 1	-.046	-.282	.024
Separation Factor 3	-.023	-.199	.042
Separation Factor 2	.071	.098	.006
Reunion Factor 2	.091	-.036	.001